03-OSR-0333

U.S. Department of Energy
Office of River Protection
Mr. R. J. Schepens
Manager
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

CCN: 066506

SEP 04 2003

Dear Mr. Schepens:

CONTRACT NO. DE-AC27-01RV14136 – TRANSMITTAL OF DECISION TO DEVIATE FROM THE AUTHORIZATION BASIS FOR THE HANFORD TANK WASTE TREATMENT AND IMMOBILIZATION PLANT

The purpose of this letter is to provide notification to the U.S. Department of Energy, Safety Regulation Division (OSR) of a decision to deviate (DTD) from the authorization basis (AB) for the Hanford Tank Waste Treatment and Immobilization Plant. This DTD is being processed in accordance with the Preliminary Safety Analysis Report (PSAR) and project procedures. This letter satisfies the 72-hour written notification requirement.

DTD 24590-PTF-DTD-M-03-002 (Attachment 1) describes a deviation from the Pretreatment (PT) PSAR Sections 4.3.6.2 and 4.3.16.2. The specific deviation from the AB is the reclassification of the PT Facility's Treated Low-Activity Waste Evaporator Reboiler and Separator and their respective controls from Safety Design Class and Safety Design Significant to Risk Reduction Class.

Safety Evaluation (SE) 24590-WTP-SE-ENS-03-377 (Parts 1 and 2) is attached (Attachment 2) as required by procedure. This SE will become an AB amendment request and will be submitted for OSR approval by September 26, 2003. Approval is requested by November 26, 2003, to meet procedural requirements and to correct this deviation within 90 days.

This DTD will be tracked in the Recommendation and Issues Tracking System to ensure attention to process and closure schedules.

This deviation was discussed with Mr. Lew Miller of OSR on August 28, 2003.

BECHTEL NATIONAL, INC.
2435 Stevens Center Place
Richland, WA 99352
tel (509) 371-2000

CCN: 066506

Please contact Mr. Mark Platt at 371-3589 for any questions or comments on this transmittal.

Very truly yours,

J. P. Henschel
Project Director

MP/slr

Attachments: 1) 24590-PTF-DTD-M-03-002
2) 24590-WTP-SE-ENS-03-377 (Parts 1 and 2)

cc:

Armstead, J. M. w/o	WTP	MS14-3B
Barr, R. C. w/a	OSR	H6-60
~~Barrett, M. K. w/o~~	~~ORP~~	~~H6-60~~
Beranek, F. w/o	WTP	MS4-A1
DOE Correspondence Control w/a	ORP	H6-60
Ensign, K. R. w/o	ORP	H6-60
Erickson, L. w/o	ORP	H6-60
Eschenberg, J. w/a	ORP	H6-60
Hamel, W. F. w/o	ORP	H6-60
Hanson, A. J. w/o	ORP	H6-60
Klein, D. A. w/o	WTP	MS4-A1
PDC w/a	WTP	MS11-B
Platt, M. A. w/a	WTP	MS4-B1
Ryan, T. B. w/a (2 copies)	WTP	MS4-B1
Scribner, D. w/a	WTP	MS4-B2
Short, J. J. w/o	ORP	H6-60
Spezialetti, W. R. w/o	WTP	MS4-B1
Taylor, W. J. w/a	ORP	H6-60
Tosetti, R. J. w/o	WTP	MS4-A2

Attachment 1

24590-PTF-DTD-M-03-002

Decision to Deviate from the Authorization Basis

DTD No: 24590-PTF-DTD-M-03-002 Rev No: 0

The approvers of this form have determined that it is critical to project progress to temporarily deviate from the Authorization Basis (AB) as allowed in RL/REG-97-13. This temporary situation will be corrected no later than 90 days from the date this form is approved by the Area Project Manager. Environmental and Nuclear Safety (E&NS) is responsible for notifying DOE verbally within 24 hours, and in writing (including a copy of this form) within 72 working hours, after the DTD is approved

Safety Evaluation No. 24590-WTP-SE-ENS-03-377

Identify the specific design changes that are not in compliance with the AB (include the document numbers of affected design documents).

1. ***24590-PTF-M6-TLP-00002/00003***: P&ID's indicate the Quality Level & Seismic Category as CM/SC-III for TLP-RBLR-00001, TLP-SEP-00001 and associated controls and are consistent with Severity Level Calculation (24590-PTF-Z0C-W14T-Rev.A) results, ISM classifications documented in CCN # 049601/055154 , and the TLP Specification 24590-PTF-3PS-MEVV-T0001. However, the PSAR shows these vessels as "ITS/SDC/SC-I" and their associated controls as "SDS/SC-II" for the reboiler and " SDC/SC-I" for the separator.

2. ***24590-PTF-3PS-MEVV-T0001***: Specification (including the mechanical data sheets) shows the Quality Level & Seismic Category as CM/SC-III for TLP-SEP-00001/TLP-RBLR-00001 and associated controls, and is consistent with Severity Level Calculation (24590-PTF-Z0C-W14T-Rev.A) results, ISM classifications documented in CCN# 049601/055154, and the associated P&ID's. However, the PSAR shows these vessels as "ITS/SDC/SC-I" and for their associated controls as "SDS/SC-II" for the reboiler and " SDC/SC-I" for the separator.

3. ***24590-PTF-3YD-TLP-00001***: System Description for TLP is currently being revised to include the re-classification of the Quality Levels and Seismic Categories of TLP-SEP-00001/TLP-RBLR-00001 and associated controls. The re-classifications are: CM/SC-III and are consistent with Severity Level Calculation (24590-PTF-Z0C-W14T-Rev.A), P&ID's and the ISM meeting results documented in CCN # 049601/55154. However, these classifications are not consistent with the PSAR.

Affected Design Documents		
Number	**Rev.**	**Title**
24590-PTF-M6-TLP-00002	0	P&ID's for PTF-Treated Law Evaporation Process System-Condensers & Condensate collection TLP-VSL-00002.
24590-PTF-M6-TLP-00003		Treated LAW Evaporator Process system separator: TLP-SEP-00001.
24590-PTF-3PS-MEVV-T0001	0	Specification: The Waste Feed Evaporation Process (FEP) System and Treated Law Evaporation Process (TLP) Systems
24590-PTF-3YD-TLP-00001	0	Systems Description for Treated LAW Evaporation Process: (TLP).

Describe the specific deviation from the AB associated with implementing the change. Identify the AB document(s) and the affected section(s).

Refer to the above and attached Safety Evaluation

Decision to Deviate from the Authorization Basis

DTD No: 24590-PTF-DTD-M-03-002 Rev No: 0

In addition to the Safety Evaluation referenced above, perform an evaluation to determine the following:

☒ The specific design changes do not cause or threaten imminent danger to the workers, the public, or the environment from radiological, nuclear, or chemical hazards.

Prepared by:

Andre V.Benamou		8/12/03
Print/Type Name	Signature	Date

Decision to deviate from the AB concurred with by:

~~Steve Grabowski~~ BOB VOKE AB 8/12/03		8/12/03
ADS / DEM Staff Supervisor (Print/Type Name)	Signature	Date
Fred Beranek		8/13/03
E&NS Manager (Print/Type Name)	Signature	Date

NOTE: E&NS is responsible for the 24-hour verbal and 72-hour written notifications to DOE-OSR as described above.

Decision to deviate from the AB approved by:

~~Garth Duncan~~ STEVE GRABOWSKI	for R Vokes for S Grabowski	8/19/03
APEM / DEM (Print/Type Name)	Signature	Date
Bob Lawrence for		8-28-03
Area Project Manager (Print/Type Name)	Signature	Date

Decision to deviate from the AB closed.

APEM / DEM (Print/Type Name)	Signature	Date

Attachment 2

Safety Evaluation
24590-WTP-SE-ENS-03-377,
Parts 1 and 2

Safety Evaluation For Design

Safety Evaluation No.: 24590-WTP-SE-ENS-03-377	Rev. # 0
Design Document Evaluated: 24590-PTF-M6-TLP-00002/00003	Rev. # 0
Consists of Parts: ☒ 1 ☒ 2 ☐ 3 ☐ 4	

Title: PT Treated LAW evaporator reboiler TLP-RBLR-00001 & treated LAW evaporator separator vessel TLP-SEP-00001 and associated controls: Safety Class and Seismic Category Reclassification.

Description of design change:

The treated LAW evaporator separator (TLP-SEP-00001) and the reboiler (TLP-RBLR-00001) including their controls, will be reclassified from "Safety Design Class or SDC" to "Risk Reduction Class or RRC".

Reason for design change:

Treated LAW evaporator separator TLP-SEP-00001 was classified as an SDC vessel in PSAR Section 4.3.16.2. (in terms of the credited interlocks to shut down evaporator/separator feed pumps associated with this vessel) For the controls, PSAR Section 4.3.16.3 identifies the inline radiation monitor and the high level detector as SDC. Although the vessel will contain significant amounts of radioactivity, this vessel and its controls are being reclassified from SDC to RRC because the hazards associated with this vessel's content pose only SL-3 or SL-4 consequence to the facility worker (24590-PTF-Z0C-W14T-00002, Rev. A, Severity Level Calculation for the Pretreatment Facility).

Treated LAW evaporator reboiler vessel TLP-RBLR-00001, was also classified as SDC (and SDS for the controls) as described in PSAR Section 4.3.6.2. Although the vessel will contain significant amounts of radioactivity, this vessel and its controls are being reclassified from SDC to RRC because the hazards associated with this vessel's content pose only SL-3 or SL-4 consequence to the facility worker (24590-PTF-Z0C-W14T-00002, Rev. A, Severity Level Calculation for the Pretreatment Facility).

Complete the following parts as appropriate:

Part 1 Safety Screening

Complete Part 1 for all design changes requiring this form. Refer to Appendix 2 of 24590-WTP-GPP-SREG-002 for guidance. If all Part 1 answers are 'No', or for a 'Yes' answer the design is safe and consistent with the AB, the design change does not require further safety review or an AB change. If this is the case, sign this form after Part 1 and submit to PDC. After each question briefly describe the basis for each answer.

		YES	NO
1.	Does the change modify or delete a standard prescribed in the *Safety Requirements Document Volume II* (SRD)?	☐	☒
	Basis: The aforementioned design changes are made consistent with standards prescribed in the SRD. These changes do not modify or delete a standard prescribed in the SRD.		
2.	Does the change alter the location, function, or reliability of an SSC as described in the AB? *This question refers to SSCs described in the LCAR and PSAR, including text descriptions and tables in chapter 2 of the PSAR.*	☒	☐
	Basis: The credited safety functions of TLP-RBLR-00001 and TLP-SEP-00001 including their controls, were described in the PSAR sections 4.3.6.2 and 4.3.16.2 as "SDC" safety functions. SDC classification of these vessels and associated controls SDC is inconsistent with the potential hazards they pose to the facility worker (SL-3 or SL-4 consequence). Downgrading the safety class of these components could affect the reliability of these two vessels and associated controls.		

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3.	Is there a change in classification, new items being classified, or existing items deleted as described in the PSAR?	☒	☐
	Basis: The original classification reported in Chapter 4 Section 4.3.6.2 and 4.3.16.2 for TLP-RBLR-00001 and TLP-SEP-00001, respectively, is " SDC". This reboiler (SDC) and associated controls (SDS) were credited with the safety function to provide primary confinement of process liquids. This SDC classification was re-designated RRC and documented in ISM meeting minutes CCN's # 049601 & 055154. The change in vessel and its controls classification from SDC to RRC are in alignment with the intended safety function. These two vessels will be re-designated as RRC (from SDC) in the PSAR because they contain significant amount of radioactivity. However, the hazards associated with the vessel's contents pose only an SL-3 or SL-4 consequence to the facility worker based on calculation 24590-PTF-Z0C-W14T-00002, Rev. A which is the severity level basis for Rev. 0a of the PT-PSAR.		
4.	Does the change affect the safety function descriptions in chapter 4 of the PSAR?	☒	☐
	Basis: The original classification reported in Chapter 4 section 4.3.6.2 was SDC for TLP-RBLR-00001 and SDS for its controls (Chapter 4, section 4.4.5). The TLP-SEP-00001 safety classification was not specifically addressed in the PSAR section 4.3.16.2. However, its controls were identified as SDC. The revised safety function description excludes TLP-RBLR-0001 and TLP-SEP-00001 and their controls from the SDC and SDS designations in Chapter 4 of the PSAR.		
5.	Does the change create a new hazard or affect the hazard or accident analysis contained in the PSAR?	☒	☐
	Basis: The DBE scenarios presented in sections 3.4.1.11.4.1 and 3.4.1.12 of the PSAR are not materially affected by the reclassifications of the Treated LAW evaporator separator reboiler TLP-RBLR-00001/TLP-SEP-00001 (CSD-PTLP/N0046). The events associated with the TLP SSC's are represented events, i.e., the CNP scenarios are bounding. The DBE analysis remain unchanged except for the deletion of the TLP system as requiring ITS controls for loss of contamination and direct radiation events.		
6.	Does the change affect criticality safety?	☐	☒
	Basis: No criticality concerns with the treated LAW evaporator separator/reboiler vessels were identified in the PSAR. The impacts on criticality safety from the proposed changes are unchanged from those described in Chapter 6 of the PSAR.		
7.	Does the change have the ability to affect exposures to radiation (doses), contamination levels, or releases of radioactivity to the environment? If so, has an ADR been completed?	☒	☐

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	Basis: The change in TLP SSC classification from SDC (as indicated in PSAR Sections 4.3.6.2 and 4.3.16.2) to RRC could have the ability to affect exposures to radiation doses, contamination levels, or releases of radioactivity to the environment, if material from this system is released. However, the low consequences associated with this vessel (SL-3 or SL-4 based on calculation 24590-PTF-Z0C-W14T-00002, Rev.A) would be acceptable, since the hazard associated with radiation/contamination of this system is very low. In addition, an ADR has been completed based on the SL-3/4 doses and is documented in 24590-PTF-ADR-03-008.		
8.	Are any other Authorization Basis documents affected by this change?	☐	☒
	Basis: There is no other AB document affected by this change except for the PT-PSAR.		
9.	As a result of this design change, is an ISM meeting required?	☐	☒
	Basis: This design change was reviewed and documented in CCN # 055154 *Determination of RRC Vessels and CCN # 049601 (ISM meeting for TLP and other systems)*. ISM meetings were already conducted and have determined the quality levels and seismic category of these vessels to be CM -RRC/SC-III.		

Further safety review required? ☐ Yes ☒ No

AB change required? ☒ Yes ☐ No

If either answer above is 'Yes', continue with this form. If both answers are 'No', sign here and send Part 1 of this form to PDC.

Safety Evaluation Preparer:	Andre.V.Benamou *Print/Type Name*	*Signature*	7/30/03 *Date*
Design Document Originator/ Supervisor:	Aaron Donnelly /John Talyk *Print/Type Name*	*Signature*	8/08/03 *Date*

Only required for screenings requiring NQ ABCN or ABAR.

H&SA Lead:	N/A *Print/Type Name*	*Signature*	*Date*

OK 5/12/03

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Part 2 Safety Evaluation (Complete Part 2 for all AB changes)

Complete Part 2 to determine the approval authority for the AB change. Obtain concurrence from H&SA Lead.

REGULATORY		YES	NO
1.	Based on the answers to the above technical questions and any other analysis, does the change create a new DBE?	☐	☒
	Basis: This design change does not create a new DBE because the consequences of a release from TLP system are SL-3/SL-4 consequences which are bounded by CNP event CSD-PCNP/N0025 (for the Cesium nitric acid recovery process system evaporator heat exchanger). However, it changes the existing DBE as described in PT-PSAR Chapter 3, sections 3.3.3.1.4, 3.4.1.11.4.1, 3.4.1.12, for loss of contamination control and direct radiation events. Therefore, this change does not create a new DBE, but changes the existing DBE as described in chapter 3 of the PSAR, by deleting TLP SSC's in the DBE calculation for direct radiation dose and loss of contamination control consequences.		
2.	Based on the answers to the above technical questions and any other analysis, does the change result in more than a minimal (≥10 %) increase in the frequency or consequence of an analyzed DBE as described in the Safety Analysis Report?	☐	☒
	Basis: The change in classification from SDC to RRC for these two vessels does not result in more than a minimal increase in the consequence of an analyzed DBE as described in the PSAR. On the contrary, TLP SSC's are being deleted, which would result in a decrease in the consequence of an analyzed DBE as described in chapter 3 of the PSAR.		
3.	Based on the answers to the above technical questions and any other analysis, does the change result in more than a minimal decrease in the safety functions of important-to-safety SSCs or change how a Safety Design Class SSC meets its respective safety function?	☒	☐
	Basis: This design change results in a decrease in the safety functions of important to safety SSC's and changes how a Safety Design Class SSC meets its respective safety function. These vessels were initially credited a safety related function because the SIPD database indicated an SL-2 consequence due to loss of contamination control and direct radiation dose to the facility worker. However, the supporting calculation to Rev.0a PSAR (24590-PTF-Z0C-W14T-00002, Rev. A, Severity Level Calculation for The Pretreatment Facility) indicated that the consequence to the facility worker should be SL-3/SL-4.		
4.	Does the change result in a noncompliance with applicable laws and regulations (i.e., 10 CFR 820, 830, and 835) or nonconformance to top-level safety standards (i.e., DOE/RL-96-0006)?	☐	☒
	Basis: 10CFR820 - *Procedural Rules for DOE Nuclear Activities*, sets forth the procedural rules for conduct of persons involved in DOE nuclear activities, in particular to achieve compliance with DOE nuclear safety requirements. The design changes described here are not related to any compliance, violation, or enforcement issue, exemption from safety requirements,or reporting of supplier defective products or inaccurate or incomplete information. 10CFR830 - *Nuclear Safety Management*, requires establishment and maintenance		

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	of safety baes and classifies QA work process requirements applicable to standards and controls adopted to meet regulatory or contract requirements that may affect nuclear safety. This includes certain aspects of nuclear safety requirements (TSRs), unreviewed safety questions, facility safety basis, facility safety classified SSCs, and the quality assurance program (QAP). The design changes described here are consistent with the requirements of 10CFR830 for facility safety classified SSCs. 10CFR835 - *Occupational Radiation Protection*, sets forth rules to establish radiation protection standards, limits, and program requirements for protecting individuals from radiation resulting from conduct of DOE activities. The design changes described here would not change the radiation protection program or challenge any requirements of 10CFR835. RL/REG-96-0006 - *Top-Level Radiological, Nuclear and Process Safety Standards and Principles*, Section 4.2.1, provides high-level statements that express DOE's expectations for the performance of nuclear safety-related activities associated with the WTP design. The proposed changes were developed in accordance with procedures that implement the top-level standards and principles. These change are consistent with these procedures and do not change them Therefore, the design changes are in compliance with the top-level safety standards.		
5.	Does the change fail to provide adequate safety?	☐	☒
	Basis: The declassification of these vessels from SDC to RRC properly classifies them for the safety function they serve. Also, ISM meetings documented in CCN# 049601/055154 determined that these vessels are not required to perform an SDC safety function beyond RRC Safety Classification.		
6.	Does the change result in nonconformance to the contract requirements associated with the authorization basis document(s) affected by the change? See Contract Standard 7(e)(2).	☐	☒
	Basis: Contact Standard 7(e)(2), Radiological, Nuclear, and Process safety, requires an integrated standard-based safety management program for WTP, submittal of safety documents and construction authorization requests, meetings, and provides document preparation guidance. The design changes were developed in accordance with procedures that implement the contract requirements. The changes are consistent with these procedures and do not change them; therefore, the design changes are in compliance with the contract requirements.		
7.	Does the change result in an inconsistency with other commitments and descriptions contained in portions of the authorization basis or an authorization agreement not being revised?	☐	☒
	Basis: The conditions of acceptance in Sections 4.3.1 (PT Facility Description) and 4.3.2 (PT Facility Hazard and Accident Analysis) of the Construction Authorization Agreement (CCN 054383) are not impacted by the proposed design changes, as described in Part 1 of this document. The following DOE Questions/Responses are related to the design changes were considered and reviewed for this safety evaluation: PT-PSAR-003, PT-PSAR-008,		

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PT-PSAR-108. There was no issue identified in DOE Questions/Responses with these vessels and their controls.

*If all Part 2 questions are answered 'No', a BNI-approved AB change (ABCN) is permitted. Complete Part 3 of this form and send it to the E&NS AB Coordinator. If any Part 2 question is answered 'Yes', a DOE-approved AB change (ABAR) is required. Complete Parts 3 **AND** 4 of this form and send to the E&NS AB coordinator.*

BNI-approved AB change? ☐ Yes ☒ No

DOE-approved AB change? ☒ Yes ☐ No

Concurrence:	**Initial**	**Date**
H&SA Lead:		8-8-03